

ABSTRACT OF THE DISCLOSURE

5 A method and an apparatus operate like a human neural network to analyze and store input information and form patterns according to the input and stored information. The apparatus has a preprocessing unit (3), an activity computation unit (5), a mutual repression unit (6), and a composition unit (7). The apparatus receives an input pattern, calculates the similarity and activity levels of each stored pattern with respect to the input pattern, and repeats a predetermined number of times the activity calculation of each stored pattern according to the calculated activity level ($A(i)$), a negative repression coefficient, and the activity levels of the other stored patterns. The apparatus applies final activity levels to cell values of the stored patterns, totals the cell values through the stored patterns, and generates a new pattern according to the totaled cell values.

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